12/6/77

### EEE BRANCH REVIEW

DATE: IN OUT IN 1/22/7 OUT 12/6/77	IN_	OUT
FISH & WILDLIFE ENVIRONMENTAL CHEMISTRY		EFFICACY
		•
FILE OR REG. NO. 100-EUP-59	<del>,</del>	
PETITION OR EXP. PERMIT NO.	<del></del>	
DATE DIV. RECEIVED		
DATE OF SURMISSION		
DATE SUPMISSION ACCEPTED		
TYPE PRODUCT(S): I, D,(H,)F, N, R, S	<del></del>	·
PRODUCT MGR. NO. SRS - L. Zink		
PRODUCT NAME (S) Bual 8E		
COMPANY NAME CIBA - GGIGY		•
SUBMISSION PURPOSE EUP for corn, alone and in combina	tion w	ith Bladex,
Baumel, AAtmex, Paraquat and Round	lup.	
CHEMICAL & FORMULATION Metolachlor (2-chloro-N-(2-ethymethoxy=1-methylethyl) acetamir	1-6-me ide)	ethylphenyl)-N-(2-

- 1.0 Introduction
- 1.1 ... Dual
- 1.2 Percent Active: 86.5

Contains 8 lbs active/gallon

1.3 This permit involves the use of Dual in combinations with other chemicals, they are listed below:

	AAtrex 80W
Herbicide(s)	Paraquat or Roundup
Dual 8E	Dual 8E
Bladex 80W	AAtrex Nine-O <sup>TM</sup>
Dual 8E	Paraquat or Roundup
	Dual 8E
Bladex 4L	AAtrex 4L or 4LC
Dual 8E	Paraquat or Roundup
Banvel	Dual 8E
Dual 8E	
UMBI UL	

A total of 261 gals (2088 lbs ai) are to be shipped. (Dual 8E) covering 1044 A in 48 states. The amount of other products to be used in combination are: (in lbs ai)

339.2	Atrazine	(AAtrex 80W)
348.2	Atrazine	(AAtrex Nine-0)
339.2	Atrazine	(AAtrex 4L)
14.9	Paraquat Cation	(Paraquat CL)
56.25	Glyphosate Acid	(Roundup)
50.00	Cyrnazine	(Bladex 80W)
100.00	Cyrnazine	(Bladex 4L)

# 2.0 Prections for Use

## But 8E Applied Alone

Application: Apply preplant incorporated or preemergence using rates from Table 1. Preplant Incorporated: Incorporate into the top 2 inches before planting using a disk, harrow, rolling cultivator, or similar implement. Use a preplant incorporated application if furrow irrigation is used or when a period of dry weather after application can reasonably be expected. If corn is planted on beds, apply and incorporate Dual 8E after bed formation. Preemergence: Apply to the soil surface at planting, or after planting but before weeds or corn emerge.

#### Table 1: Dual 8E Alone

	Broadcast	rate per acre
Soil texture	Less than 3% organic matter	3% or more organic matter
COARSE Sand, loamy sand, sandy loam	1.5-2 pts.	2 pts.
MEDIUM Loam, silt loam, silt	2-2.5 pts.	2-2.5 pts.
FINE Sandy clay loam, silty clay loam, clay loam, sandy clay, silty clay, clay	2-2.5 pts.	2.5-3 pts.
muck or peat soils	NOT RECO	DMMENDED

Rotational Crops: (1) If replanting is necessary, corn or soybeans may be replanted immediately. Do not make a second broadcast application of Dual 8E. If the original application was banded and the second crop is replanted in the untreated row middles, a second band treatment may be applied.

(2) Corn may be planted the year following treatment. Other crops may be planted 18 months following application.

# Tank Mixture of Dual 8E Plus Bladex 80W or Bladex 4L

Application: Apply preplant incorporated or preemergence using the rates from Table 2. Preplant Incorporated: Incorporate into the top 2 inches before planting using a disk, harrow, rolling cultivator, or similar implement. Use a preplant incorporated application if furrow irrigation is used or when a period of dry weather after application can reasonable be expected. If corn is planted on beds, apply and incorporate the tank mixture after bed formation. Preemergence: Apply to the soil surface at planting or after planting but before weeds or corn emerge.

Table 2: Sun SE + Bladex Tank Mixture

	soils	Broadc with	ast rate per a less than 3% o	cre for rganic m	natter
Soil texture	Dual 8E	<del>., </del>	Bladex 80W		Bladex 4L
COARSE Sand*, loamy sand*, sandy loam	1.25 pts.	+	1.5 lbs.	•r	2.4 pts.
MEDIUM Loam, silt loam, silt	1.5 pts.	+	2 lbs.	or	3 pts.
FINE Sandy clay loam, silty clay loam, clay laom, sandy clay, silty clay, clay	1.75 pts.	+	2.2 lbs.	or	3.5 pts.

Broadcast rate per acre for soils with 3% or more organic matter

Soil texture	Dual 8E		Bladex 80W		Bladex 4L
COARSE Sand, loamy sand, Sandy loam	1.5 pts.	+	2 1bs.	or	3 pts.
MEDIUM Loam, silt loam, silt	1.75 pts.	+	2.2 lbs.	or	3.5 pts.
FINE Sandy clay loam, silty clay loam, clay loam sandy clay, silty clay, clay	2-2.25 pts.	+	2.5-2.8 lbs.	or	4-4.5 pts.

muck or peat soils NOT RECOMMENDED

\*Not recommended for use on sand or loamy sand soils with less than 1% organic matter.

Rotational Crops: (1) If replanting is necessary, corn may be replanted immediately. Do not make a second broadcast application. If the original application was banded and the second crop is replanted in the untreated row middles, a second band treatment may be applied. (2) Corn may be planted the year following treatment. Other crops may be planted 18 months following application.

## Tank Mixture of Dual 8E Plus Banvel

Use this tank mixture only on field corn which is flat-planted (no furrows) in Illinois, Indiana, Iowa, Minnesota, Nebraska, Ohio, South Dakota, and Wisconsin.

Application: Apply preemergence using the rates from Table 3. This tank mixture should be applied to the soil surface at planting or after planting but before the corn emerges. Avoid drift to soybeans or other desirable plants. Do not apply with aircraft. Plant corn at least 1.5 inches deep and apply behind planting equipment avoiding incorporation by the planter wheel or other seed covering device. Do not incorporate prior to corn emergence. If it is necessary to rotary hoe to break the soil crust, do not disturb the soil more than one-half inch deep.

Table 3:	Dua 1	8E	+	Banvel	Tank	Mixture	!

•	Broadca: soils with mo	st rate pe re than 2.	r acre for 5% organic matter
Soil texture	Dual 8E		Banvel
MEDIUM Loam, silt loam, silt	2 pts.	+	1 pt.
FINE Sandy clay loam, silty clay loam, clay loam, sandy clay, silty clay, clay	2-2.5 pts.	+	1 pt.

muck or peat soils NOT RECOMMENDED

\* Do not use on coarse soils or on soils with less than 2.5% organic matter.

Rotational Crops: (1) If replanting is necessary, corn may be replanted immediately provided it is planted at least 1.5 inches deep with minimum disturbance of the soil. Do not make a second broadcast application. If the original application was banded and the second crop is replanted in the untreated row middles, a second band application may be applied. (2) Corn may be planted the year following treatment. Other crops may be planted 18 months following application.

Tank Mixture of Dual 8E plus AAtrex plus Paraquat CL or Roundup for Reduced-Tillage Systems

In reduced-tillage systems where corn is planted directly into a cover crop, established sod, or previous crop residues, the contact herbicides Paraquat CL or Roundup may be added to a tank-mix of Dual 8E + AAtrex.

Application: Apply before, during, or after planting, but before the corn emerges, at the rates in Table 4. Add Paraquat CL or Roundup at the following broadcast rates:

Paraquat CL: 1-2 pts. per acre plus 8 oz. of X-77 Spreader per 100 gals. of spray mixture, for control of existing weeds.

Roundup: -1.5 qts. per acre for existing annual weeds, or 2-4 qts. per acre for existing perennial weeds.

Apply in 20-60 gals. of spray mixture per acre with ground equipment.

		Broadce	<u>ıs t</u>	rate per acr	е	
Soil Texture	Dual 8E	AAtrex 80W		AAtrex Nine-		Atrex 4L or Atrex 4LC
COARSE Sand, loamy sand, sandy loam	1.5 pts. +	1.5 lbs.	or	1.3 lbs.	or	2.4 pts.
MEDIUM Loam, silt loam, silt	2 pts. +	2 lbs.	or	1.8 lbs.	or	3.2 pts.
FINE Sandy clay loam, silty clay loam, clay loam, sandy clay, silty clay, clay	2-2.5 pts.	+2-2.5 lb <b>s</b> .	or	1.8-2.2 lbs	or	<b>\$.</b> 2-4 pts
Muck or peat soils		NOT	RE	COMMENDED		

Rotational Crops: (1) If replanting is necessary, corn may be replanted immediately. Do not make a second broadcast application. (2) Corn may be planted the year following treatment. Other crops may be planted 18 months following application.

# Tank Mixture of Dual 8E + AAtrex Postemergence

Dual 8E + AAtrex applied early postemergence controls weeds not controlled by preplant incorporated or preemergence applications of Dual 8E alone.

Application: Apply early postemergence using the rates from Table 5. This tank mixture can be applied up to the time grass and broadleaf weeds are 2 inches tall and the corn has no more than 4 leaves. Applications to weeds larger than 2 inches will generally not give satisfactory control and applications made beyond the 4-leaf stage of corn may injure the crop. Occasionally some corn leaf burn may result, but this should not affect subsequent growth or yield. Postemergence applications of this tank mixture should not be made in fluid fertilizer or injury may occur.

Table 5: Dual 8E + AAtrex Postemergence

	<u> </u>	Broadca	st r	ate per acre		
Soil Texture	Dual 8E	AAtrex 80W	المنت باستوسان	AAtrex Nine-0	0	ex 4L r ex 4LC
COARSE Sand, loamy sand, sandy loam	1.5 pts.	+ 1.5 lbs.	or	1.3 lbs.	or 2.	4 pts.
MEDIUM Loam, Silt loam silt	2 pts.	+ 2 lbs.	or	1.8 lbs.	or 3.	.2 pts.
FINE Sandy clay loam, silty clay loam, clay loam, sandy clay, silty clay, clay	2 pts.	+ 2 lbs.	or	1.8 lbs.	or 3	.2 pts.

Observe all cautions and limitations on labeling of all products used in tank mixtures.

Rotational Crops: (1) If replanting is necessary, corn may be replanted immediately. Do not make a second application. (2) Corn may be planted the year following treatment. Other crops may be planted 18 months following application. Observe the crop rotation suggestions on the AAtrex labels for additional crop rotation statements.

## 2.1 Disposal

Do not contaminate water, food or feed by storage or disposal. Open dumping is prohibited. Do not reuse empty container. Pesticide, spray mixture, or rinsate that cannot be used or chemically reprocessed should be disposed of in a landfill approved for pesticides or buried in a safe place away from water supplies. Triple rinse (or equivalent) and dispose of in an approved landfill or bury in a safe place. Consult federal, state, or local disposal authorities for approved alternative procedures.

## 3.0 Discussion of Data

The following listed data is new data (tank mix) and we will review it for hazards only. The data will not be validated for registration, ZBB does not allow that time for EUP's.

- Acc. #232193, Vol. 4 of 14. Report # ABR-77067. Tab: Summaary, AG303, Dicamba method, AG-A-4141, AG-A-4156, Craven lab 76-1-D (Metachlor + Dicamba Tank Mix).
- 2. Report # ABR-77068. Tab: Summary, AG303, GAAC-6014, DAM method, AG-4085, ORTHO-T-4048, ORTHO-T-4089, AG-A-4084. (Metachlor + Atrazine \_-Paraquat Tank Mix.)

#### 4.0 Conclusion

No hazards (increased persistence) found in the cursory review of the data cited in Sect. 3.0. We note that the applicant has placed on the label an 18 mo. crop rotation restriction, except corn, and soybeans (Dual alone) which is dated can be replanted immediately. For the treated crop corn, this is fine, but for soybeans, the 12 mo. interval would have to conform to the 18 mo. interval.

#### 5.0 Recommendations

We cannot concur with the proposed use under the EUP for Dual alone and in combination with Bladex, Banvel, AAtrex, Paraquat, and or Roundup; unless the interval for soybeans on Dual alone is changed from replanting immediately to follow the 18 mo. crop rotation interval.

All Environmental Chemistry Data in Section 3 Regulations is needed prior to Registration. See attached sheet for data requirements.

Ronald E. Ney, Ji Robert F. Carsel 12/6/77

12/6/77 Environmental Chemistry Section Efficacy and Ecological Effects Branch

pattern	1
3511	
intended use patter	-
ni ve n	
rement	1
164	i
canb.	
al chemistry data requirements	
Suggery of environmental of	THE RESERVE THE PROPERTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PA
رو	
Summary	
•	į
Table 1	

The transfer of the transfer o	The second of th	P	٠	•	e e									•		
The control of the co	The control of the co			į		4 i	mary of envir	romental ch	enistry data	Printing of	ne by intend	ed nice patter	=1	. 1	e <sup>c</sup>	
Fig. 1. Sec. 1	The control of the co	!			restulal Us	25		t	20 (1) C. 11.	Marie C	•	antic lessor.	-		tion co:	
The control of the co	The control of the co	From the Branch Control of the Contr						Apater feed from	3 Aganti.		1817.1 1915. 320	Publicati Prefrige			Product.	
The region of the control of the con	The special state of the speci	WHAN AS A CO				<i>)</i> .		•								•
The regulation of the control of the	The control of the co			v	~	×.	Ì	>-	.•	`~	*		-		*	
For example of the control of the co	Section of the control of the contro	Mart Jayand Stan			×	×		:<	×	».	<i>*</i>				H.	
The stands of th	See the will be seen that the second seed to the second seed to the second seco	Not wast w				٠	)(		•		<b>.</b> ,			alin alway		
Substituted to the state of the	Secretary of the second	(ibvorgar)	4.	ĸ.	×	,	X			•*						Ö
The could be ground  The could be grown as the country of the coun	The control of control	the of the					( <u>``</u> )								_	
Section of the control of the contro	Section and the second section of the second se	Street of the street					)	×	•	×	^				ni.	•
Section of the control of the contro	Section 11.  Section 11.  Section 11.  Section 12.  Secti	Agreement of the							-		, ,				-	
Supplied to the state of the st	Substitution of the state of th	**************************************			-			( -								
Substituted to the financial of the fina	Substitute of the substitute o				×	۰	Š	×	×.	×	ж				-	
Sufficiently page that the state of the stat	Supply the first chart of the fi	- Harry, Toy (1) (45) .		•.	>	*	C	Α.	^	5. A	sc					
The filips  The fi	The diagrams of the control of the c	of the forest the					ز					<b>*</b>	امر		. •	
Supported to the state of the s	Sold frequency of the state of	San 1					(									
Soft and the soft	Section of the sectio	for this			×	×	(``)		<b>y</b> -	\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.					. <del>-</del>	
Sett were also as a set of the se	Sett North Strain Set North Set North Set North Strain Set North Strain Set North Set N	7.44.84.00		<b>~</b> ,			>			•					•	
Soil Strong of the soil of the	Sell water dispersed to the sell water decree to the sell wate	Seephies.	÷					∺	,	×	si.			· · · · · · · · · · · · · · · · · · ·	-	
Soft Salary 102 x x x x x x x x x x x x x x x x x x x	Soll X X X X X X X X X X X X X X X X X X	Sator disposas						*	۸.		×			÷ 	<b>.</b>	
First Towns 12 or No. 1	First Twenty and come branch a	कारियांड्य हैं।					(									
Figure 11 of con- bined stelly with  Xa, Nb, Nb  Na, Nb  N	Fusivities 1A com- Simple step with  Natural Company  The state of the step of		×		×	×	(x	~*		~					**	
Forestive (Ad com- North Artificial Strip with  Printing of trap  Distribute of crop  Tigh  Tigh Tigh	Focus tyle 14d com- New Strip with  New Strip	101th					>	<b>×</b> ,	*	ر۲		•		<del></del>	×	
Fulational crop  With the first of the first	Figure 1 crop  Title 1 crop  Title 1 crop  Title 2 crop  Title 2 crop  Title 3 crop  Title 3 crop  Title 3 crop  Title 4 crop  Title 5 crop  T	Forestries (Ad com-	ī								*		•			
Printing crop  Wirkeat Jerop  Fish	Printing crop  With the contract of the contra	•	* 2				(	,		D.					×	-
wirdfrated errop  Fig. X  Y  Y  X  X  X  X  X  Y  Y  Y  Y  Y  Y	Cish Chart & C													·	•	_
							) (	<b>*</b> *	*						- 34	
		الله الله	3.4 x 72.4	~	×	pi.		. »·	¢ >	<b>3</b> 4	·				•	
		· · · · · · · · · · · · · · · · · · ·					•									